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Give your tech teams the resources to test new ideas, and big business value follows.

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THIS ISSUE | 12.05.2011 [VOL. 45, NO. 22 $5/COPY]

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ILLUSTRATION BY CAROLINE HWANG

HeadsUp

FOTOLIA / ELNUR

E-BUSINESS

Holiday Shopping at Work Raises Risks

EMPLOYEES ARE PLANNING to do more online holiday shopping while on the job this year, a new survey shows. And many will be using their personal smartphones and tablets.

As a result, IT managers are worried about corporate network security because personal devices may be especially vulnerable to being hacked during shopping forays. This is according to ISACA, a nonprofit IT advisory group with 95,000 members, most of whom have IT-related jobs.

In two surveys, ISACA found that the average American will spend 32 hours shopping online this holiday season, with 18 of those hours spent on a personal smartphone or tablet that's also used for work. Because those devices connect to corporate networks and access data at times, precautions need to be taken to keep hackers at bay, ISACA officials said.

"We want to ensure the bring-your-own-device trend works in a secure manner and that workers are following processes that the organization has put in place," said Rob Stroud, past international vice president for ISACA and a vice president at CA.

The BYOD trend has escalated in the past year, he added.

To prevent potential problems, companies need to educate their employees, Stroud suggested. Employers need to advise workers to remember to download OS updates, use strong passwords and avoid opening email attachments from strangers. Understanding the corporate policy for when IT may wipe a device clean is also essential.

– Matt Hamblen

COMPUTERWORLD.COM

HARDWARE

New SIM Card Will Lead to Thinner Phones

A new SIM card, dubbed nano-SIM, will free up room in phones for additional memory and larger batteries, allowing manufacturers to create thinner devices, German card maker Giesecke & Devrient claimed.

At approximately 12 millimeters by 9 millimeters, the nano-SIM is around one-third smaller than the smallest card currently available – called a micro-SIM – and about 60% smaller than the traditional SIM card that is still used in most phones, Giesecke & Devrient said. The nano-SIM card is also about 15% thinner than current models, the company added.

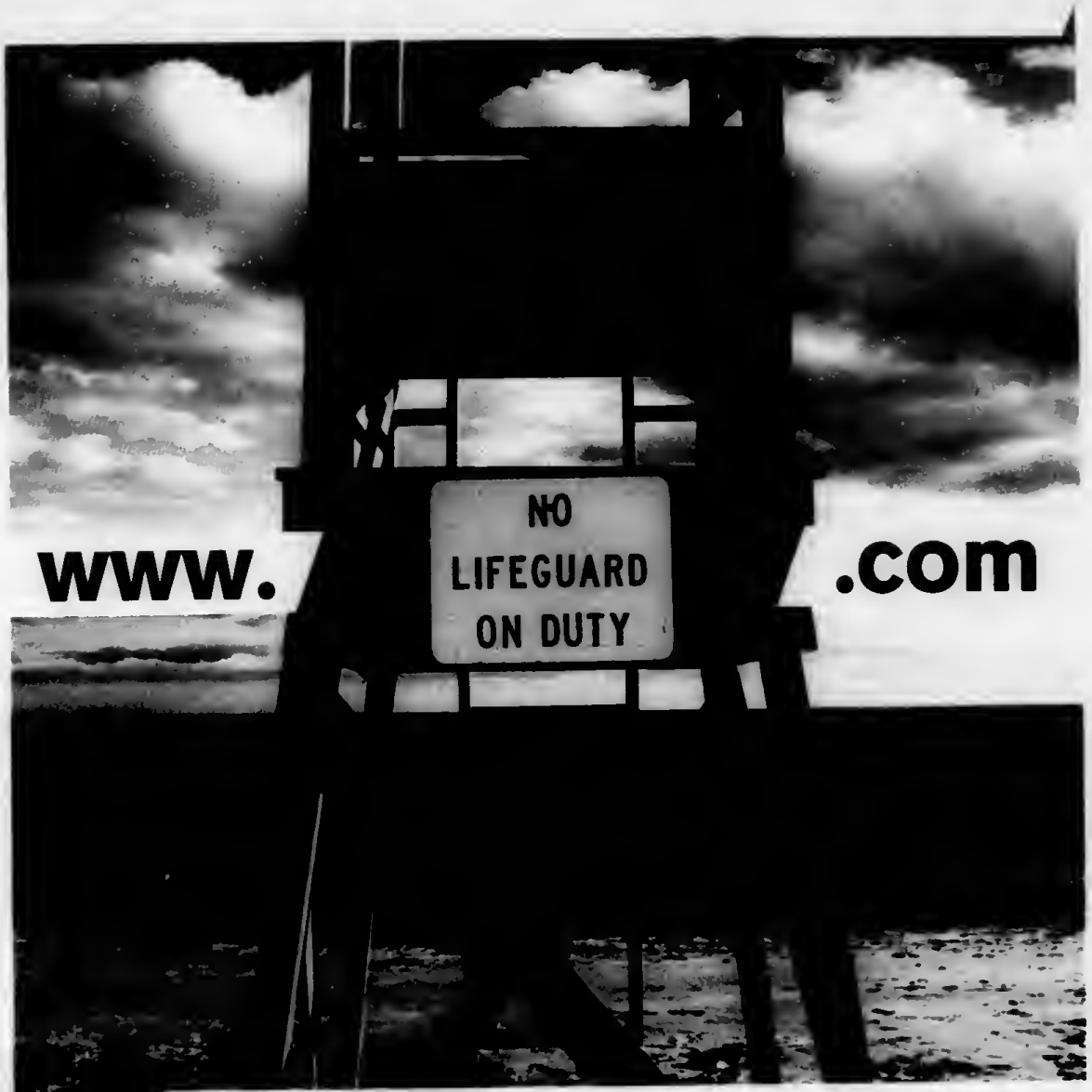
The first phones to incorporate the new card will arrive next year, the company said. With adapters, the format will be backward-compatible.

Giesecke & Devrient has shipped samples to mobile network operators for testing.

Apple, which already uses a micro-SIM card, has been helping develop the new form factor. In May, Apple filed a proposal for a smaller card of its own design, and in early November, a patent application for a virtual card surfaced.

It's only a matter of time before virtual SIMs take over, according to Malik Saadi, an analyst at Inform Telecoms & Media.

– MIKAEL RICKNÄS, IDG NEWS SERVICE



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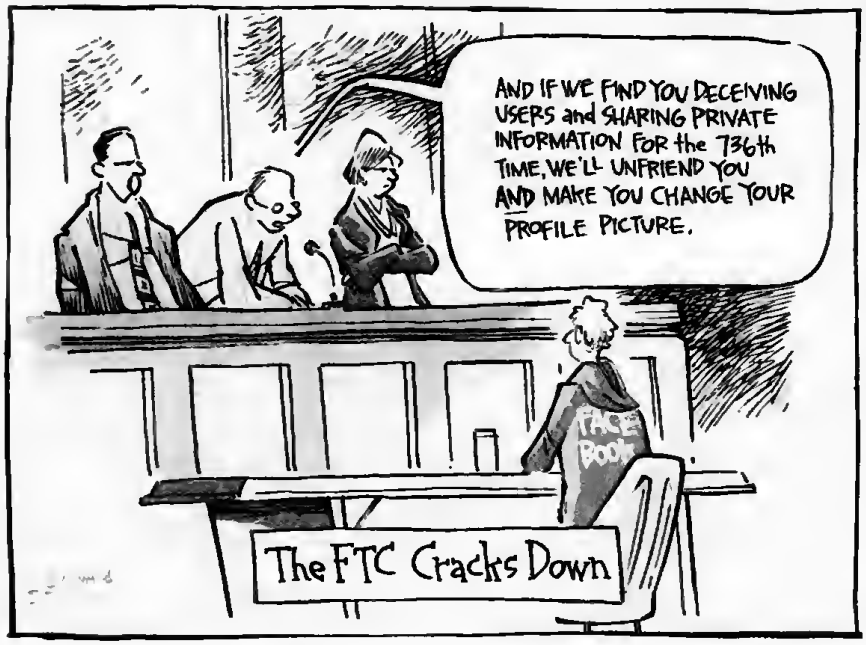
BETWEEN THE LINES
By John Klossner



PROCESSORS

Windows Tablets Get Quad-Core Chips

QUALCOMM HAS PROMISED that its quad-core Snapdragon chips, designed to run Microsoft's upcoming Windows 8 operating system, will appear in tablets in the second half of next year.

The quad-core chips will be part of the Snapdragon S4 product line and are based on ARM architecture. The S4 chips, which will include single-core and dual-core options, will run at clock speeds between 1.5GHz and 2.5GHz.

Microsoft has said Windows 8 will work with ARM processors, and it has chosen Qualcomm, Texas Instruments and Nvidia as its initial chip partners.

Qualcomm's Adreno graphics core will support DirectX 9.3 multimedia technology, which will be available in Windows 8.

A Qualcomm spokeswoman declined to comment on when S4-based tablets running Windows 8 would become available, but Microsoft has already demonstrated Windows 8 running on a Snapdragon tablet.

Microsoft hasn't announced a release date for Windows 8. However, Intel has said the OS will be released later next year, which could be around the time the S4 tablets are ready.

Snapdragon chips are already being used in HTC's Jetstream and Lenovo's IdeaPad U1 tablets. For its part, Qualcomm is working on 30 tablet designs with top device makers, the spokeswoman said.

The market is heating up. Nvidia has already shipped a quad-core ARM processor for tablets, and Asustek Computer recently announced the Eee Pad Transformer Prime tablet, which sports a 10-in. screen and the Tegra 3 quad-core processor.

But there are questions about the need for quad-core chips, because dual-core chips might meet most tablet needs, said Dean McCarron, principal analyst at Mercury Research. Quad-core chips are used in less than 10% of the PCs on the market, and the tablet market might see the same rate of adoption, he said.

– Agam Shah, IDG News Service

Micro Burst

China is now the world's largest smartphone market, with

23.9M

units shipped in Q3. That's 600,000 more than were shipped in the U.S. in Q3.

INTERNET

Cerf: Internet Governance Critical Issue

Vint Cerf, widely considered one of the inventors of the Internet, recently said that Internet governance is one of the most important issues in the high-tech world.

Cerf, speaking at a Google event in California, said the Internet is a disruptive influence in most areas of people's lives and is making a lot of governments around the world nervous.

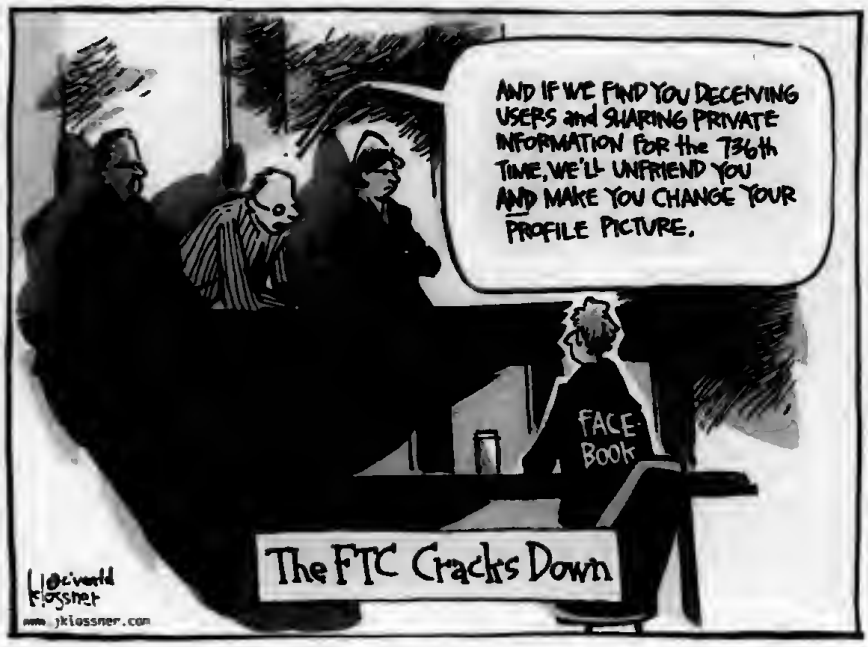
"I hope no one will forget the effects of the Arab Spring," Cerf told the audience. "There are governments that see the Internet as an important social element, business element, political element. Governments have liked to think they were in control of those elements. And they feel less in control of the Internet."

The threat of losing control will spur some governments to try to extend their reach and reassert their authority, Cerf said. He called it a dangerous situation.

"There are some big issues coming," Cerf said. "Remember governance is a very, very big word that includes law enforcement, human rights, business transactions. It touches everything, including the standards world and copyrights. That's why Internet governance is Topic A in many quarters."

SHARON GAUDIN

BETWEEN THE LINES
By John Klossner



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– SHARON GAUDIN

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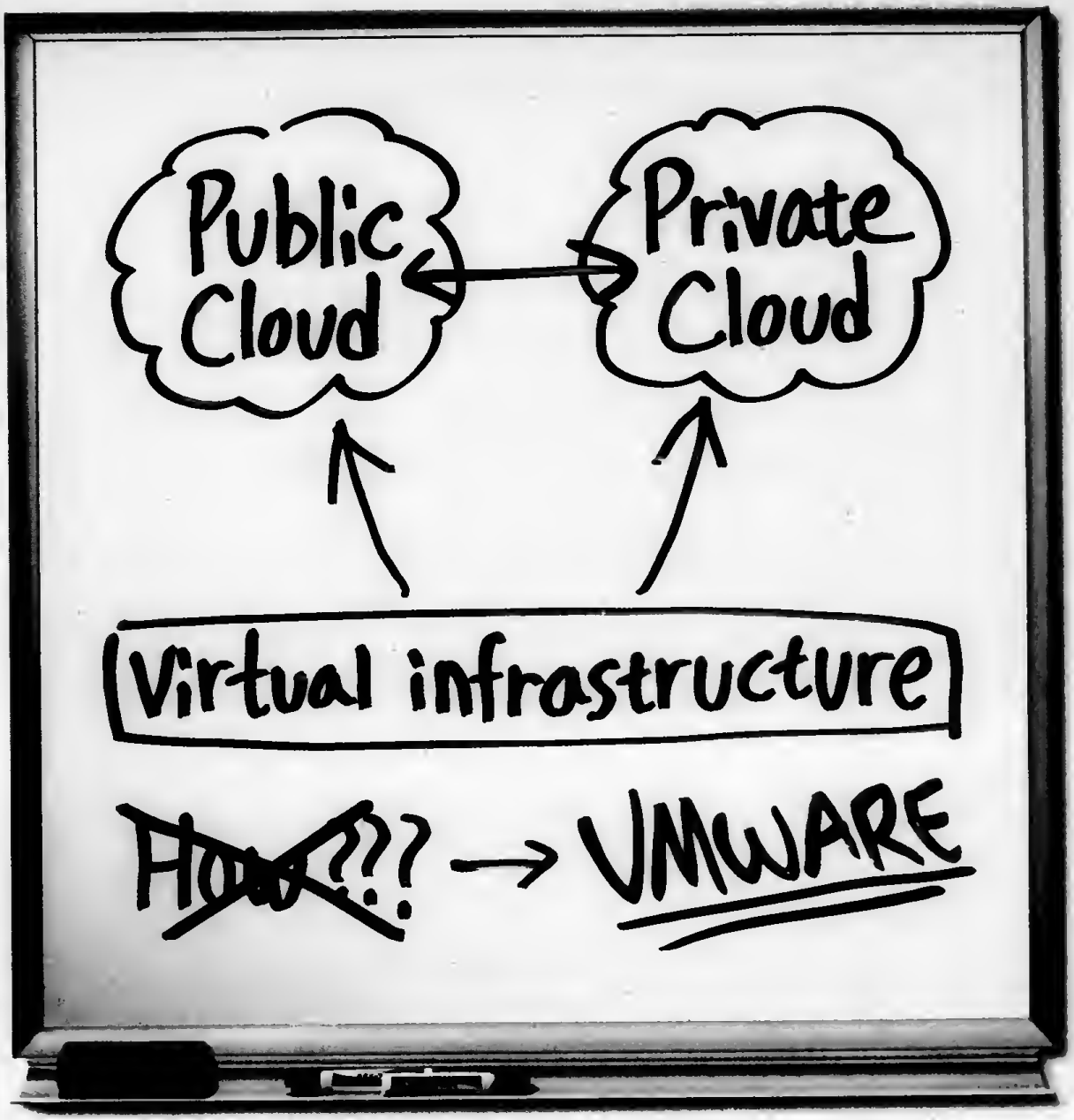

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U.S. HPC Lead in Danger

The DOE's exascale program is stalled, and its prospects appear bleak at a time of budget-cutting fever. By Patrick Thibodeau

THE SC11 SUPERCOMPUTING CONFERENCE in Seattle last month saw an almost obsessive focus on the development of an exascale computing system — one that would be roughly 1,000 times more powerful than any existing system — before the end of the decade.

Programs to develop ever-higher-performance computing systems are underway around the world — but the U.S. isn't yet leading the way, even though it has dominated HPC development for decades.

China and Europe, in particular, are moving ahead with strong exascale programs. And Japan is increasingly picking up the pace. Efforts in the U.S., however, are stalled; the federal government hasn't released a formal exascale plan since last summer, when it outlined preliminary goals of building an exascale system that doesn't use more than 20 megawatts of power by 2019 or 2020.

The U.S. Department of Energy is due to deliver to Congress by Feb. 10 a timetable and budget for building an exascale system.

The delivery of the U.S. plan couldn't come at a worse time politically, particularly after the Congressional Super Committee last month failed to reach a budget agreement, triggering significant mandated cuts.

Experts say exascale systems could be capable of solving the world's greatest scientific problems. If the U.S. falls behind, the research would increasingly be done in other countries.

Exascale development efforts could also seed new processor, storage and networking technologies. Breakthroughs in other countries could give rise to new challenges to U.S. tech dominance.

Many U.S. scientists have warned of the problems posed by the strong exascale projects underway in Europe and China.

"The EU effort is more organized at this stage ... with strong backing from the European Commission," said Jack Dongarra, a computer science professor at the University of Tennessee. "The bottom line is that the U.S. appears stalled and the EU, China and Japan are gearing up for the next generation."

Corporate interest in high-performance computing is growing quickly, and many IT operations will likely continue to seek more powerful HPC systems, whether created in the U.S. or not.

Even midsize companies like L&L Products are using supercomputers to create new products and boost sales.

L&L, a maker of structural composite products for the automotive industry, used the technology to create virtual models and run automotive crash simulations, among other things.

Steven Reagan, the computational modeling manager at L&L, said the 53-year-old company has doubled its business since first adopting HPC technology six years ago.

If the U.S. does fall behind, observers wonder whether it can get involved in the next computing level — zetascale.

If the current pace of HPC development continues, a zetascale system can be expected around 2030. But heavy research is required: No one knows what it would look like, or whether it's even possible without using entirely new approaches like quantum computing. ◆

The bottom line is that the U.S. appears stalled

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AT&T Merger Plan Hits Huge Roadblock

The FCC questions AT&T's claim that the T-Mobile merger will add 96,000 U.S. jobs. By Matt Hamblen and Grant Gross

DESPITE MOUNTING U.S. government opposition, AT&T has so far vowed to continue seeking antitrust clearance for its $39 billion merger with rival wireless carrier T-Mobile USA.

Analysts say the battle may be unwinnable.

The Federal Communications Commission last week allowed AT&T and T-Mobile parent Deutsche Telekom to withdraw license transfer applications, just days after the FCC announced that its staff had determined that the deal, first revealed in March, was contrary to the public interest.

AT&T said it sought the license withdrawal so it can concentrate on fighting a Department of Justice lawsuit that aims to block the merger on antitrust grounds. To be safe, though, AT&T set aside $4 billion to pay contractual break-up fees to Deutsche Telekom if the deal fails.

AT&T and Deutsche Telekom would have to refile an application for license transfer at the FCC should they prevail in the DOJ court case, now slated to begin Feb. 13, 2012.

The new application would have to better prove to skeptical FCC regulators that AT&T's claim that the merger would create 96,000 U.S. jobs is valid. The FCC staff report, released over the objections of AT&T because it still required a vote by the full commission, concluded that a merger is more likely to cause job losses.

Since the FCC move, AT&T has reportedly initiated negotiations to sell up to 40% of T-Mobile's assets to answer the antitrust concerns.

> Neither Deutsche Telekom nor AT&T are stupid.... They have both looked at strategies and different options for a long time

Analysts are skeptical that AT&T can overcome FCC and DOJ objections and eventually close the deal.

Phillip Redman, an analyst at Gartner, suggested that AT&T would have to sell off too many assets — including wireless spectrum and customers — to satisfy government objections. "It may not be worth having the merger," he said.

Maurice Stucke, an associate professor at the University of Tennessee College of Law and a former DOJ attorney, said that selling spectrum and customer assets to smaller companies would give AT&T a better chance to win DOJ approval, but he added that the merger "is still unlikely."

"DOJ has a good case under the original merger deal," Stucke said, noting that the federal Clayton Antitrust Act only requires the DOJ to show that a merger will "substantially lessen competition."

Chris Lemley, a marketing professor at Georgia State University who has researched the U.S. wireless market, said that if the deal fails, AT&T and T-Mobile "will still try to get what each wanted out of this in other ways. Neither Deutsche Telekom nor AT&T are stupid.... They have both looked at strategies and different options for a long time."

For instance, he said that Deutsche Telekom could use the $4 billion break-up payment to improve its network and make T-Mobile more marketable to "any number" of competitors.

Jeff Kagan, an independent analyst, suggested that T-Mobile could be sold to Sprint to create a credible alternative to top carriers AT&T and Verizon Wireless.

Others have speculated that AT&T and T-Mobile may form a joint venture if the deal is rejected. ◆

***Gross** is a reporter for the IDG News Service.* **Mikael Ricknäs** *of the IDG News Service contributed to this story.*

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THE Grill

Fernando Gonzalez

In the fast-paced fashion industry, agility is this CIO's core strength.

Favorite pastime:
Watching my grandchildren grow.

Something interesting that most people don't know about you:
My love of the arts, primarily painting. I can draw very well, [but] I can't put life to what I draw.

In high school, I was...
a bookworm. One of my nicknames in school was "Professor."

Last book you read:
John Adams by David McCullough.

Role model: Victor E. Villaseñor, who wrote *Rain of Gold*. He writes a book every 10 years, and the fact that you can dedicate yourself to this one thing for 10 years – that's dedication.

FERNANDO GONZALEZ, *CIO at San Francisco-based Byer California, has worked in the IT field for decades, making his way through the healthcare, aerospace and medical devices industries. In fact, he says he cut his teeth with EDS founder Ross Perot back in the 1960s. Over the years, Gonzalez's career has taken a few twists and turns, including a return to Byer, which he had left to take the CIO role at a large semiconductor company. Lured back to the maker of women's apparel about eight years ago, Gonzalez is happy to be working at a private company, without shareholder pressure, and with an IT team whose members are all in one location. But he also revels in the constant and evolving challenges of IT.*

What's been the most challenging initiative you've undertaken recently? Implementing an ERP system. Everything else does not fundamentally change your company. It's just hardware and software behind the scenes. When you go to a new ERP system, you are

Continued on page 12

CenturyLink
Business

> **Security from the point of view of trying to protect intellectual property** — [it's] less important when you're fast.

Continued from page 10

really changing your company and putting it in place to go forward. We told everybody who was going to have to deal with it, "You are going to hate this thing, it's going to be difficult, it's going to be unforgiving, it's going to be more disciplined, it's going to require a lot more data, and it's going to require a lot more work on your part. And there's not much in it for you, the individual user. What's in it for you is that the company is going to be around in five to 10 years, and you'll still have a job."

What are some of the unique challenges you have found in the fashion or retail industry, compared with other companies you've worked for? Time to market. The product has a shelf life of about 10 weeks. There's close to a dozen seasons in the year now. You're going from the design or the product idea to hanging it in the stores in 10 to 12 weeks. That's a very short cycle for any product.

How does that short shelf life influence IT's needs? Our systems have to be up and available all the time. Everything we do has to be directed to getting it out the door faster, quicker, seeing where things are at all times in the supply chain. That's where it affects IT. Having a system that's reasonably fast, that's the key to our business.

What effect does such agility have on your need for network security? For us, with such a short shelf life, if you broke in and hacked a pattern to make a girl's dress, you can't make it cheaper or faster than us or in the quantity we can make and get it in the stores. Security is less important because of the speed of doing business. You have security in place because you don't want someone to be malicious. But security from the point of view of trying to protect intellectual property — [it's] less important when you're fast.

Does Byer use predictive analytics to determine what fashion trends are going to be popular? My belief is that it doesn't exist, and it will never exist, because you cannot predict a woman's buying habits from one season to the next. It's an emotional buy. What they bought last spring doesn't say what they're going to buy this spring. You can do it in jeans. You can do it in polo shirts. You can do it in those areas, yes. But in fashion, I don't think you can use BI to predict what is going to sell.

What emerging IT trends will impact Byer? Definitely mobility. Mobility is going to be the key thing. The issue with that is that [users will] want to [use mobile devices to] get into the ERP system. There's not going to be a lot of people, maybe Samsung, competing with Apple for the [tablet] for the consumer. I see people like Lenovo and people like Dell creating [tablets] for the enterprise so that they can transact data, so that they can VPN in easily. When those [tablets] come out for the enterprise, I see that's a big push coming into IT that we're going to have to respond to.

How would you describe your leadership style and how you interact with your co-workers? I know I'm extremely collaborative. I always tell my staff to keep your career No. 1 and your job No. 2, and you'll stay, because you're marketable. I'm always trying to make sure that we're working with some good technologies, current technologies, that will make them marketable. I also try and give them plenty of room to fail. If you don't let them fail, they're not going to make great strides. If you make it so tight that they can't fail, then they're not going to grow; they're just going to play in the safe zone all the time.

What's some of the best advice you've gotten in your career? You can't know everything, so try to surround yourself with enough people so that, as a group, you might know *almost* everything. Anybody I hire, I always tell [them] I am going to be wrong. If I make a stupid decision, come and tell me about it, let's discuss it. You can tell me in a nice way or a not-so-nice way, and I'll tell you why I made it, and maybe you'll see my point of view, and maybe I'm just wrong. I don't want somebody who's going to work for me who says, "He's the boss, he said so, it must be right."

What advice would you give somebody who's just getting started in IT today? Never expect to be a journeyman or a master; you're always going to be an apprentice. The technology changes too fast for you to ever become a master. As long as you always want to be an apprentice, it can be a great job, it can be a lot of fun, because it's always changing — always. ◆

– Interview by **Ken Gagné**

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OPINION

S.J. VAUGHAN-NICHOLS

Operating Systems Don't Matter Much Anymore

FOR DECADES NOW, WE'VE BEEN FUSSING about operating systems. "Mac OS X is better than Windows!" "Why upgrade to Windows 7 when XP works just fine?" "You're all wrong. Linux rules." Such arguments are about to become history.

Thanks to advances in virtualization, cloud technology and the Web, it matters less and less to users which operating system is behind their desktop screens — or, for that matter, their tablet and smartphone displays.

The OS will remain important for as long as we use computers, but mostly it will matter only to the people behind the scenes.

Don't get me wrong. Operating systems will remain important for as long as we use computers. But for the most part, they are going to matter only to the people behind the scenes.

Look at the desktop. More and more applications can be used with just a Web browser. Indeed, Google's Chrome operating system is built around the idea that a browser is all a user really needs, and Google extends that idea through a software ecosystem that includes Gmail for email and Google Docs for office software. The primacy of the Web browser is arriving just as advances in Web technology, such as the rise of HTML5, are making the browser ever more powerful. (And if you don't believe that HTML5 is a real advance, then you haven't noticed that Adobe, for all intents and purposes, is abandoning its flagship media format, Flash, for HTML5.)

Meanwhile, software as a service, which used to be just for business applications, is becoming more common in user settings. This isn't just Google's plan. Other options include programs like Dropbox, which offers users universal access to storage without any need for a file server. Meanwhile, Apple, with iCloud, is moving both data storage and services such as media serving, email and contact management to the cloud. And Microsoft is moving this way as well, with offerings like Office 365.

In the business world, the old client/server model is being phased out as cloud-based services take over more and more functions. Users — and sometimes CIOs and CTOs, for that matter — increasingly have no idea where their applications and data actually "live." The IT staff may know that the cloud is in a given data center, but that's it. A similar progression is occurring in the consumer world, with personal storage and services going to the cloud.

Behind all of this, in the data centers that constitute the cloud, rack after rack of servers spin up virtual operating-system instances as needed to meet the demands of users. Back in IT, there's no longer a need to fulfill that demand by breaking a physical server out of storage. Instead, an automated program or a system administrator simply requests more storage or CPU power.

What all of this means is that, in business and in the home, the operating system you're running and the type of device you're using — PC, tablet or smartphone — will have dwindling importance (for users, that is; how all of this happens behind the scenes is still going to matter a lot). The things that will matter to users will be having sufficient bandwidth and a good Web browser.

In short, computing is going to become a commodity. As long as our Internet connection stays up, we'll give our operating system no more thought than we currently give to the details of how electrical power comes into our homes. ◆

Steven J. Vaughan-Nichols has been writing about technology and the business of technology since CP/M-80 was cutting-edge and 300bps was a fast Internet connection — and we liked it! He can be reached at sjvn@vna1.com.

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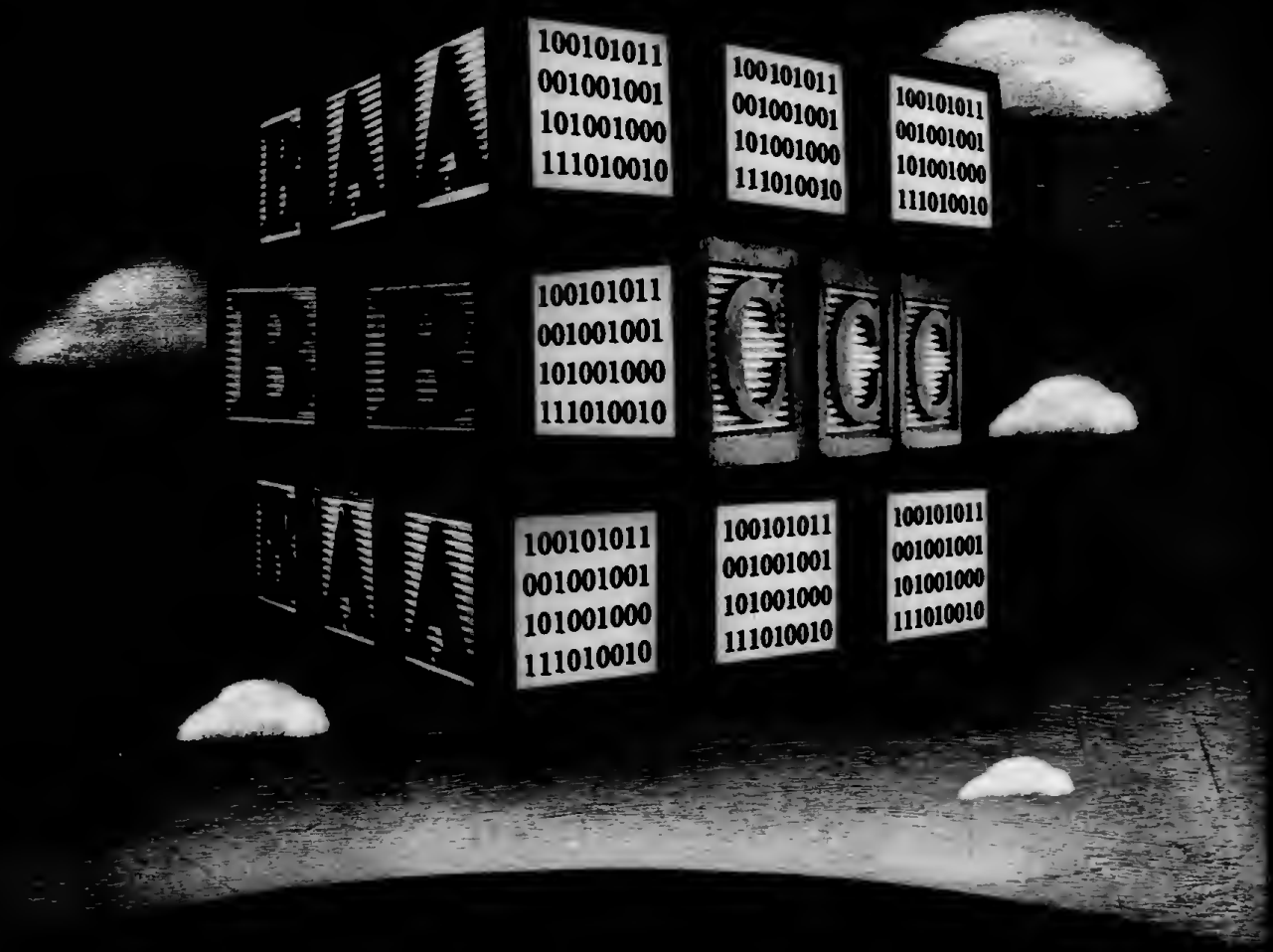
When IT Gets to Play

Give your tech teams the resources to test new ideas, and big business value will follow. **BY JULIA KING**

IT'S CALLED the technology petting zoo. Stocked with the latest high-tech gadgets, games, systems and software that could potentially be of business value, it's a place where engineers and other IT users at NASA's Jet Propulsion Laboratory can try out the steady stream of hot, new consumer technologies and imagine the possibilities.

DANA BERRON ILLUSTRATION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An Open Invitation To Innovate

TECHNOLOGY SKUNK WORKS aren't just for IT personnel. At least, they shouldn't be. So says Tom Soderstrom, CTO at NASA's Jet Propulsion Laboratory, where an open-door policy prevails at the lab's technology petting zoo.

"Any company able to help employees innovate so that they're good at their business and at technology will have an advantage," Soderstrom says. "Innovating together is key."

As Soderstrom sees it, consumers and consumer technologies are really driving innovation, so it's only logical that all employees — not just IT workers — should have open access to JPL's version of a skunk works.

"It was an eye-opener how useful the petting zoo could be," he says. For example, thanks to the iPhone's early presence in the petting zoo, JPL was one of the first organizations to design and deliver mobile apps for Apple's smartphone.

"We saw early on that the iPhone would be very different and very revolutionary. We thought it was interesting not because of the phone, but because of the applications," he explains. "We saw that applications would be delivered via a mobile device, so we formed a prototype group, distributed iPhones to them, and then used a wiki to collect information. We were among the first to have iPhones, and now we're delivering mobile applications all over the place," he says.

JPL's mechanical engineers are frequent visitors to the petting zoo. "They are very innovative people and have become experts in IT especially," Soderstrom says. One of their most recent developments is a model of NASA's Mars Curiosity Rover, which users can view through 3D projection and control with a "space mouse" (or 3D mouse). "The thing that's driving all of it is an $800 3D projector," he explains.

Another petting zoo project in the works is a telepresence robot. "We want to be able to collaborate anywhere with anyone at any time, and the way to build the trust to do that is with videoconferencing," he says. "But when you use Skype, you're Skyping to someone else who is sitting in front of a computer and if you want to move that computer at the other site, you can't," he explains, shedding light on the issue they're trying to solve.

The telepresence robot, he says, "is like a broomstick with a laptop on top of [it] that you can drive yourself" and move from meeting to meeting at a remote site and participate via Skype. "You have a window into that organization," he says.

The success of both projects is "a testament to consumerization," Soderstrom says. "By paying attention to consumer technology with an eye toward business use, we're leapfrogging technology with our engineers' help."

— JULIA KING

THE BIRTH OF 'SKUNK WORKS'

How did it all start? Historians say the phrase **"skunk works"** was coined in 1943 by the Lockheed Aircraft employees who designed and built the first U.S. fighter jet. Displaying the autonomous spirit that came to characterize later skunk works initiatives, the team was already four months into the project when it finally received the official government contract to build the jet. The group originally used the name Skonk Works, after a dilapidated factory in Al Capp's *Li'l Abner* comic strip, but it switched to Skunk Works when Capp complained.

SOURCE: COMPUTERWORLD

"We can afford to buy at least one of everything that looks like it might have business value. The petting zoo is where they can test it," explains Tom Soderstrom, CTO at the Jet Propulsion Laboratory.

"We also have a social networking site where they rate what they try. It works to create a kind of technology pull, rather than push, and creates a desire among users to work with IT. A big benefit is that users no longer have to be in the shadows and hide what they're trying from the IT security police."

Rob Petrie

At Pharmaceutical Product Development Inc., CIO Rob Petrie has set up his own version of a tech petting zoo — or skunk works, as such initiatives are often called. The PPD's version is called the innovation group, and it's comprised of a rotating team of IT staffers who come from diverse backgrounds and are taken out of their regular jobs to spend six months experimenting with various technologies. Their goal is to discover ways that new technologies could be applied to deliver business at PPD.

"We always have at least five or six things in motion in the group," says Petrie. "Bringing different people through and then returning them to IT is a way to cross-pollinate ideas. It spreads innovation."

Its name may vary, but there's little doubt about it: the IT skunk works is making a comeback — not so much as a place to allow experimental projects to flourish, away from the stifling corporate bureaucracy, but as an indispensable tool to breed innovation, learn about risk, build employee loyalty, conduct pilot projects and educate technical and nontechnical staffers in a time of rapid-fire technology change.

Some skunk works are formal operations set up as proving grounds for technologies being considered for use on a wider

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basis. Others are more clandestine. Funded with small amounts of money from other parts of the IT budget, these skunk works operate under the corporate radar and are used, among other purposes, to attract and engage bright and eager young professionals who have little patience with big honking enterprise systems.

"I tend to use the skunk works for things that are way out there," says the CIO of a global consumer products company. "It keeps my technology team engaged."

This CIO, who's the type who likes to keep things under the radar, also notes that a skunk works is an ideal setting to hone IT staffers' understanding of risk. "One of the biggest concepts with risk is the difference between 'I know' and 'I think.' Once you've had the opportunity to play with something, you know about it," he says. The proof is in the projects. "We've increased our project output by 300% because my team now knows how to take risks," he says.

One of his skunk works' biggest successes has been its work with cloud computing. "We're operating an internal cloud and now extending it out to deliver applications to our vendors and trading partners," the CIO says. The ultimate goal is to have all enterprise data reside in the cloud. The IT group will securely deliver applications to any device, but all data will remain in the cloud. Thanks to work done and risks taken in the skunk works, the company is well on its way to achieving this goal, the CIO says.

At Flextronics International, a global contract electronics manufacturer, CIO David Smoley avoided creating a dedicated skunk works in the traditional sense.

"A skunk works is a tool that can help innovation, but they're needed most in an environment that kind of stifles innovation," he says. Smoley recalls his work at previous employers, mainly "large companies where there was a heavy bureaucracy and rigid processes. The way you got around that was to spin off some folks and set them up off-site somewhere."

At Flextronics, he says, "we created a kind of massive skunk works by creating a place where it's safe to take some risks. In fact, we encourage that," he says.

"We highlight failing fast, experimenting, trying things but trying them small. If they work, add a little more. If not, throw them out, move on and don't kill the guy who tried it," Smoley says.

This is precisely how the company's internal social network known as Whisper came about. "We have a software group in the Ukraine that developed the tool for their own use. They brought it forward a year ago," Smoley recalls. "There are many companies where I've worked that would immediately have killed the guys because that was not what we were paying them to do. But we embraced it," he says.

Smoley, however, says he wasn't so sure about the need for Whisper when tools like Facebook and Google were already available, so he organized a bakeoff.

"We put together some business and IT folks and ran a pilot and ultimately went with Whisper enterprisewide," he says. "But that never would have happened if the guys in the Ukraine didn't feel safe and comfortable [about experimenting]. If they felt they were going to get fired, they wouldn't have thought at all about it, and if they did, they would have hidden it."

Yet Smoley is quick to point out that a skunk works or a culture of innovation does not imply or encourage random experimentation, especially during tight economic times.

"We're not just in the business of coming up with cool stuff, but [rather] coming up with cool stuff to improve security, better customer service and solve other problems," he says. "Innovating with random technologies in an IT department might yield something [of business value], but chances are it won't. There's a method to the madness. What I want to do is encourage my guys to innovate around those areas they're responsible for."

Smoley is also a firm believer that proximity to a problem plus a tight economy and constrained resources work to create a climate of increased innovation.

"Some of the most innovative solutions come from [IT personnel] in the field or factories where they have the dual benefit of being severely constrained and toe-to-toe and eye-to-eye with our end customers," Smoley says. "Those are the guys who have customer service, sales and quality folks in their factories telling them their requirements. As they solve their problems, we troll their websites and look for unique opportunities to spread best practices.

"We also try to take advantage of our lack of resources by encouraging everyone to be innovative," he says. For example, a team in IT built an open-source network monitoring tool that Flextronics now uses globally. That tool was developed after officials rejected IT's recommendation that the company buy a multimillion-dollar, commercial network monitoring system.

"The response was, 'We just don't have the money,' " Smoley recalls. "But now, we have this [open-source] tool that has literally saved us $10 million."

At JetBlue Airways, CTO Terry Dinterman says skunk works are typically set up to tackle very specific business issues.

For example, the airline set up a skunk works of sorts in direct response to a competitive business need for onboard Internet connectivity for passengers.

"Connectivity into the aircraft is a key business driver, and there was a need to get ahead of the industry," Dinterman explains. "So we had a dedicated team from business and technology who were set aside to do some investigation."

"We highlight failing fast, experimenting, trying things but trying them small. If they work, add a little more. If not, throw them out, move on and don't kill the guy who tried it."

DAVID SMOLEY, CIO, FLEXTRONICS INTERNATIONAL

Currently, the airline has a small team known as Crew Member Technology Services that is dedicated to "scanning the technology horizon and dabbling with anything out there" in the area of virtualization and thin client technology, says Dinterman. "By moving to a pure thin client and virtualizing our desktops, we expect the cost of supporting customers to be cut by one-third," he says. This same group is also investigating the business value of tablets and various "bring your own device" scenarios.

"Pretty much all this group does is try to experiment to make things work and think through the policies and support models and all of the other issues associated with new technologies," he says.

Dinterman says a separate skunk-works-type group is needed, especially when a company is in growth mode like JetBlue.

"We try to be very lean, so asking anyone with an operational, day-to-day initiative to spend a portion of their time dabbling in experimental activities is too much. The pressure of keeping the environment up and running is difficult and unpredictable enough," he says.

Funding a Skunk Works

For the most part, formal budgets seem to have no place in a skunk works. Instead, most CIOs describe scenarios in which they artfully move money around to fund experiments with technologies that show great promise for delivering business value.

Last year, for example, an IT manager approached Paul Major, managing director of IT at Aspen Skiing Co., with an idea for streamlining an especially labor-intensive and manual process of redeeming vouchers for ski classes with instructors.

"I asked him what he thought he needed and he told me a few hundred dollars for a scanner to see if the idea would work," Major recalls. "The end result is that this year, after a season of experimentation, we're going to roll out a brand-new program that will revolutionize the way we do ski lessons and the way that instructors get scheduled and paid."

As for the budget, he says, "we always have a few line items we could poke a few thousand dollars in without generating too much scrutiny from the finance team. We always will have a way to get [would-be experimenters] $1,000 and allow them to go play with duct tape and sawdust and try it out without wreaking havoc and see what works," he jokes.

"For us, skunk works is more of a mentality than a process. It doesn't matter if you have $100 or $100,000; it's about giving people resources to try things and see what happens," says Major.

Looking ahead, many CIOs foresee even greater activity in skunk works where they already exist and the creation of new skunk-works-type activities where there are none currently. The reason is directly tied to the rapid pace of technology change.

"There will be much more pressure to do this kind of thing," says the CIO at the consumer products company. "Companies want better, faster, cheaper, but IT doesn't know how to do that unless they try things out." ◆

Skunk Works Make For High Morale

ONE OF THE BIGGEST SOFT BENEFITS of an ongoing IT skunk works turns out to be its "cool factor," which helps to attract and retain the best and brightest tech talent worldwide, CIOs say.

At Flextronics, which actively fosters a pervasive culture of innovation, more than 50% of IT employees who have left the company to take high-paying jobs elsewhere have returned, according to CIO David Smoley.

"They come back and say that the scope of their responsibilities at Flextronics is so much more interesting and rich. That gives them a lot of job satisfaction," Smoley says.

The innovation culture has played out particularly well in India, where Flextronics is adding 100 new jobs.

"What we've found is that by creating this culture of innovation, our retention levels are higher and we get talent we wouldn't ordinarily get given our position in the marketplace," Smoley says. "People see Flextronics as a place where you can get exposure to problems that you wouldn't see at [Indian outsourcing companies] Tata and Wipro," he says. "Here, you're put on a global team with exposure to multiple sites and people. You get stretched to think and act in ways that you didn't sign up for."

A skunk works and an emphasis on IT innovation help reassure employees, says JetBlue Airways CTO Terry Dinterman.

"If you're part of a team with the capability to try new things and innovate, it's cool to identify that your organization is dabbling in new technologies," says Dinterman. "As an employee, it's also reassuring to know that your company is staying in front [of the tech trends], particularly for those of us in IT who have been around the block a time or two," he says.

Skunk works assignments also give managers a tool to keep employees engaged during lean times when promotions and pay increases are nearly nonexistent.

"We have a thin IT organization, and you're not going to get promoted unless someone leaves," notes the CIO of a global consumer products company. "Your only options are to enjoy where you are or go somewhere else. If employees stay here, I want them happy," he says, noting that the skunk works has a definite positive impact on employee morale and engagement.

"When [an IT employee] starts talking to people at other companies, they find out how different their environment is here. They get to play, try things out and build a killer résumé," the CIO says. "It has happened several times that they haven't taken another job that pays more because they're having a blast here."

— JULIA KING

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THE HIDDEN COSTS OF CLOUD COMPUTING

WALTER WICK / GETTY IMAGES

Smart companies plan ahead to avoid gotchas that can blow holes in their budgets.

BY BOB VIOLINO

MOST EXPERTS AGREE: The cloud is moving past the hype stage and starting to deliver tangible benefits, primarily increased flexibility and agility.

But moving to the cloud can also mean added costs, some of which are unexpected, according to IT executives whose organizations have implemented or are considering cloud services.

While these costs wouldn't necessarily prevent companies from getting real business value out of cloud computing, they could have an impact on the overall cost-benefit analysis of cloud services.

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Moving and Storing Data

It can cost tens of thousands of dollars per year to move large volumes of data to public cloud services and to store that data for long periods of time. Many companies might not be aware of the expenses involved.

"A one-time move can [cost] thousands of dollars," says Hernan Alvarez, senior director of IT and operations at WhitePages Inc., a Seattle-based company that provides online contact information for more than 200 million people and 15 million businesses.

Network bandwidth accounts for much of the cost of moving data: Cloud providers might charge upload and download fees. And even though data and systems are being hosted off-site, there are internal labor costs. "People think there are no labor costs [with the cloud], but as you scale up [to] handle workload, there's a complexity with managing large numbers of cloud instances, just like managing a large number of servers," Alvarez says. Another big cost is for long-term data storage in the cloud. "When you consider the data growth rates over the next three years, the life-cycle cost of data can be really high," Alvarez says. "You continue to pay for that every month" when data is stored in the cloud.

But these costs are "only unexpected if you don't fully comprehend the cloud model," he says. "If you think about CPUs, capacity and storage [needs] and chart that over time, you can get a pretty good handle on what the costs are and if you can do it more cost-effectively internally."

WhitePages considered using the cloud for data backup, but after extensively evaluating eight vendors, the company determined it would be too expensive — as much as three to four times what it would cost to keep data internally, Alvarez says. So the company opted to handle long-term data storage on-site, in its private cloud.

In general, though, using public cloud computing for purposes other than storage eliminates the need to deploy and maintain applications internally. WhitePages has been using public cloud services for about two years and now uses 11 cloud-based applications from Salesforce.com, SuccessFactors, ADP, WebEx, Yammer and other providers. This has led to savings that greatly outweigh any of the unexpected costs, Alvarez says.

Integrating Apps From Multiple Vendors

Pacific Coast Building Products wants to start using cloud computing in a big way and has evaluated services from several vendors. But the Rancho Cordova, Calif.-based provider of goods and services to the construction industry has limited its cloud usage so far because the economics are not quite there yet, says CIO Mike O'Dell.

Two reasons for this are the difficulty of integrating software from disparate vendors in the cloud, and the fact that Pacific Coast would incur added costs if it tried to handle the integration on its own.

For example, the company uses Microsoft Exchange for email and Cisco's Unity Unified Messaging for voice mail, and it's interested in using both of those applications as cloud services. "Integration between [Exchange and Unity] in the cloud, at least the last time we looked, wasn't there," O'Dell says.

Without integration, users wouldn't have some of the capabilities they have now, such as automatic deletion of voice-mail messages on their phones when they receive the messages via email.

The same sorts of integration challenges exist with larger and more complex applications, such as ERP, O'Dell says. For example, "for us to put [SAP] in the cloud means we'd have to give up features or spend a lot of money on integration," he says. "Maybe it's just a matter of immature technology, but the integration side is where the hidden costs are. If you don't look at this right out of the gate, you might not be as happy with the economics at the end as you thought you would be."

When you consider the data growth rates over the next three years, the life-cycle cost of data can be really high.

HERNAN ALVAREZ, SENIOR DIRECTOR OF IT AND OPERATIONS, WHITEPAGES INC.

Testing Software

The need to test software before migrating to the cloud can also result in unforeseen costs.

"We bumped into some expense that we did not expect for testing and debugging a vendor app that had not been run in a cloud configuration before," says Bill Thirsk, vice president of IT and CIO at Marist College in Poughkeepsie, N.Y.

The college was moving a large-scale ERP system onto a private cloud, using servers that the vendor hadn't yet approved. Marist uses its private cloud to provide online services such as registration, billing inquiries and payments to students, faculty and research organizations.

Thirsk says "99%" of the college's ERP migration activities "went very smoothly, and overall we saved hundreds of thousands of dollars by using a cloud configuration." But, he adds, "stabilizing the system within a cloud that already supported 900 virtualized servers gave us quite a challenge."

The added expense was to "untangle

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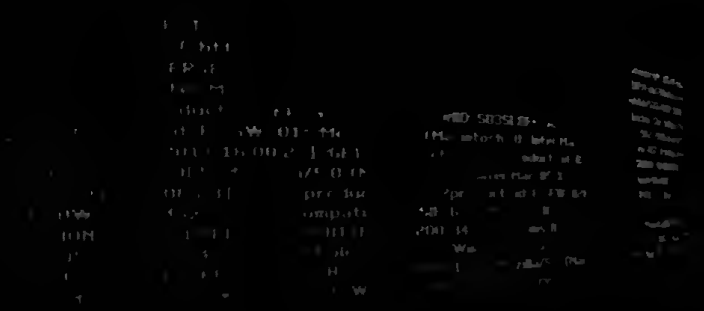

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Hidden Costs

BE AWARE that free pilot programs for cloud services can quickly turn into expenses.

Continued from page 24

the maze of what versions [of] the operating systems and databases would work," Thirsk says. "It was [a] matter of changing some code. It took some time and effort to figure out exactly what lines needed to be changed."

Hidden costs can also crop up if applications aren't primed to take full advantage of the capabilities of cloud computing.

"We made the assumption that the ERP programming was sophisticated enough to take advantage of all the processors, memory, caches, storage devices and network connections that the cloud configuration offered," Thirsk says. But it wasn't, and revising the software code required a "considerable amount" of application developer and systems programmer time. "We have seen a 30% increase in performance, but it wasn't free," he says.

Rent and Utilities

IT executives who move systems to the cloud might encounter another unexpected cost if they suddenly find themselves paying expenses that wouldn't normally be their responsibility.

"There are, of course, many costs associated with hosting a system internally, but not all of them, like power and rent, are paid out of my IT budget," says Jonathan Alboum, CIO at the U.S. Department of Agriculture's Food and Nutrition Service (FNS). "With the cloud, these basic infrastructure charges are baked into the overall cost, so I'm now paying for some things that previously didn't come out of my IT budget."

Since the summer of 2010, the FNS has been using an Amazon.com cloud service to host an application that's offered through the agency's Supplemental Nutrition Assistance Program (SNAP), which provides the benefits that used to be known as food stamps.

The tool, called the SNAP Retailer Locator, provides an online map that helps people find retailers that accept SNAP debit cards. The FNS decided to put the application in the cloud because that setup allowed for a quick launch and was highly scalable, among other reasons.

Since he's using a cloud-based service, Alboum has to pay new monthly costs and take a new approach to budgeting. "Overall, [the cloud] is very manageable and likely results in overall lower costs for the government," he says. "But it is different from what we've traditionally experienced."

It's not a matter of the cloud service costing more than in-house hosting. "I think of this as a cash-flow issue," Alboum explains. "If I'm going to pay monthly costs, I need to have available budget to cover those costs at the time I incur them. In the more traditional model, I would purchase hardware and associated services in a lump sum. The new model is likely less expensive, but requires a change to budgeting practices."

Much about the cloud is still relatively new, and experts say organizations evaluating cloud services need to look at both the costs and potential benefits. In a report on cloud services in April 2011, Gartner noted that IT executives "should take steps to manage inherent risks and unexpected costs during the cloud services revolution."

The cloud model is "immature and fraught with potential hazards," says Gartner analyst Frank Ridder. "Cloud computing is driving discontinuity that introduces exciting opportunities and costly challenges. Organizations need to understand these changes and develop realistic cloud sourcing strategies and cuntracts that can reduce risk."

The cloud sourcing life cycle includes four main elements: sourcing strategy, vendor selection, contracting, and management and governance, says Ridder, adding, "The life cycle is a critical area to plan and manage, regardless of whether organizations source their IT services through internal or external resources." ◆

Violino *is a freelance writer in Massapequa Park, N.Y. You can reach him at bviolino@optonline.net.*

FOTOLIA / STEVE EDISON

Continued from page 24

the maze of what versions [of] the operating systems and databases would work," Thirsk says. "It was [a] matter of changing some code. It took some time and effort to figure out exactly what lines needed to be changed."

Hidden costs can also crop up if applications aren't primed to take full advantage of the capabilities of cloud computing.

"We made the assumption that the ERP programming was sophisticated enough to take advantage of all the processors, memory, caches, storage devices and network connections that the cloud configuration offered," Thirsk says. But it wasn't, and revising the software code required a "considerable amount" of application developer and systems programmer time. "We have seen a 30% increase in performance, but it wasn't free," he says.

Rent and Utilities

IT executives who move systems to the cloud might encounter another unexpected cost if they suddenly find themselves paying expenses that wouldn't normally be their responsibility.

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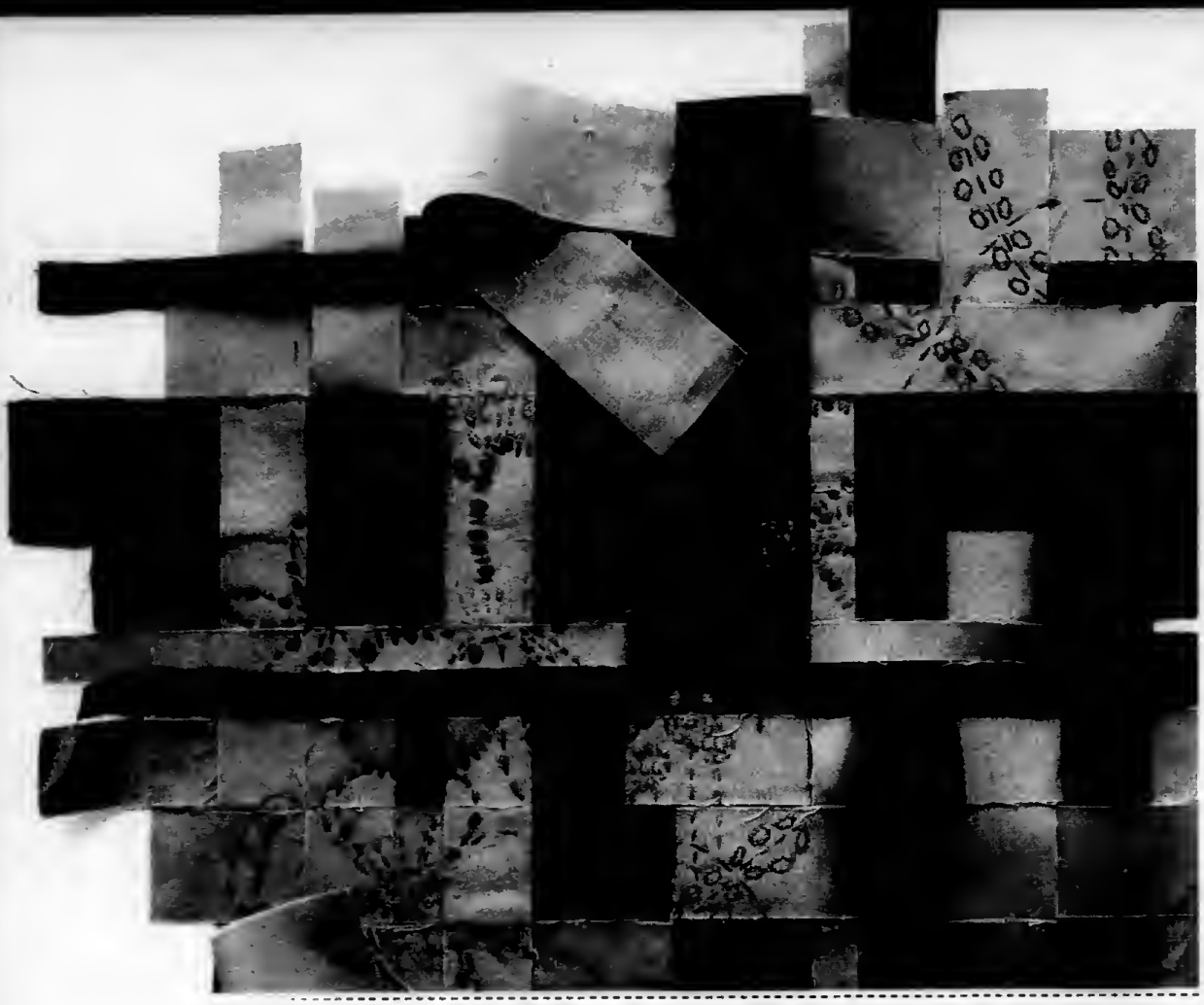

Weaving BI Into the Corporate Fabric

top-down commitment

IF 1-800-FLOWERS.COM CIO Steve Bozzo had his druthers, even the online retailer's mailroom clerks would have access to business intelligence. "There's valuable information at every level of the organization," he says.

Clearly, Bozzo sees the power of pervasive BI. "Business intelligence needs to be part of the business fabric: not an afterthought

ILLUSTRATION BY CAROLINE HWANG

layered on top of a business initiative, but part and parcel of the overall process from the get-go," Bozzo says. "And that's what it is for us — it's a part of our culture."

But pervasive BI doesn't mean everybody in the company has sophisticated analytics tools to use as they wish, cautions Dan Vesset, an analyst at IDC. Rather, he says, pervasive BI is about ensuring that everybody — front-line employees, middle managers and executives — can make decisions using the right information at the right time.

Achieving BI ubiquity takes considerable time and effort — 10 years and counting in the case of 1-800-Flowers.com. "Pervasive business intelligence is something that we have and continue to work very hard at — and we think we're really successful at it," Bozzo says.

Over time, the Carle Place, N.Y.-based company has learned the imperative of having a BI/analytics practice within IT as well having corresponding liaison groups in each business unit. "These liaisons are experts in BI, but they major in business and minor in IT, whereas the analytics group in IT majors in IT and minors in business," Bozzo says. "The groups complement each other perfectly, and this has made a huge difference in the way we roll out BI."

At 1-800-Flowers.com, a family of 20 brands, IT asks each business group to identify who needs access to BI and to classify each designated individual as either a basic, intermediate or super user. A basic user can generate basic queries and pull ad hoc reports, while a super user can write macros and generate his own reports; the capabilities of an intermediate user fall in between the two, Bozzo explains.

These are not static designations, he adds. "Our goal is to turn basic users into intermediate users and intermediate users into super users. Ultimately, someone defined by the business as somebody who has a need for BI information will go through that process, with IT taking the responsibility and accountability for facilitating the training," he says. Thirty-two 1-800-Flowers.com employees recently attended a training class run by its BI vendor, SAS Institute, he adds.

"Our basic goal is that we understand everything we can about our customers, so it's important to get increased numbers of people involved in business intelligence. That effort cannot hurt as long as they have the appropriate training and can use the tools that we give them," Bozzo says.

Aberdeen Group has seen the correlation between training and the success of pervasive BI programs, says David White, an analyst at the research firm. "Best-in-class companies on pervasive BI are making sure users understand not only the capabilities of the BI tools, but also the data, statistics if necessary, and analytical techniques, and how these help in decision-making. They have broad educational efforts around pervasive BI," he says.

> **Business intelligence needs to be part of the business fabric:** not an afterthought layered on top of a business initiative, but **part and parcel of the overall process** from the get-go.
>
> **STEVE BOZZO,** CIO, 1-800-FLOWERS.COM

Democratizing Data

Training is a critical success factor in achieving pervasive BI, which is, in turn, essential for better business excellence, agrees Bobby Nix, director of business intelligence and analytics at Allconnect, an Atlanta-based consumer services company. "We want to be a data-driven company, so we are democratizing data and making sure everybody has access to it," he says.

Toward that end, Nix's team has equipped all corporate employees with SAP BI tools so they can conduct their own day-to-day analysis of how the business is performing. "That means we spend a lot of time training and mentoring them on how to use reports and pull analysis together, as well as on analysis techniques — but we don't create the analysis for them unless it requires really complex analytics," he says.

For this effort to succeed, the BI team has to fully understand the company's business needs, Nix says. "This isn't just me making decisions about what they need. It's an exchange, a gathering of business requirements and a coming to an understanding of how they run their business and what their biggest obstacles are," he says.

First and foremost, companies with a commitment to pervasive BI need to look at the types of decisions being made and determine whether they are strategic, corporate or tactical, Vesset says. "Each type of decision has a different requirement for the type of technology a company needs to apply to support it, and they're different in the way that people interact with the data," he adds.

Businesses can typically handle tactical decisions with rules-based automated systems that kick out exceptions for more in-depth human analysis, for example. Corporate decisions typically entail collaborative BI, so users involved in those decisions will require more than analytics capabilities — they'll also require tools that enable effective communication with colleagues should they need advice on the intelligence, Vesset explains. At the strategic level, where users are making decisions for the longer term, tools are less important than experience.

"One of the primary reasons for BI failure is that IT never really understood why business users needed the information they requested. All it heard was, 'We need this data point,' and that's it," Vesset says.

Everybody from the top down must understand the importance of the data — even individuals who never use an analytics tool or see a business report, agrees John Lucas, director of park operations at the Cincinnati Zoo & Botanical Garden.

"In achieving success, the key has been allowing our project to be steered by the people who are influential in the organization — those who can make budgetary decisions and set strategy and vision, as well as people who are directly responsible for the success or failure of the business, specifically revenue," says Lucas. "But the pervasiveness is core." He spearheaded the decision to foster an enterprisewide culture of BI at the zoo, and he selected the IBM Cognos tools that IT now supports for the effort.

The zoo was one of the first visitor attractions to take on such a deep BI project, and Lucas frequently shares his experiences in speaking engagements around the country. "The No. 1 thing I tell people is, if you don't succeed on making everybody understand, embrace and participate in the process, you really shouldn't do analytics," he says. "The cultural buy-in is key to reaching your full potential with analytics."

Lucas says he likes to tell zoo employees, "If you can imagine it, we can measure it," and he has hosted companywide meetings to drive home that message. Even front-line cashiers, who are typically college kids working summer jobs, have to know that the data they gather — patrons' ZIP codes, for example — is critical to the zoo's success. And because the BI team has taken the time to convey that message, he says, "almost literally every day, somebody comes up with an idea on how we can use business analytics to drive the needle for us."

Ongoing efforts to make BI pervasive do pay off, White agrees.

"At the companies we survey, we see pervasive use of business intelligence being tied to better business performance. So those business functions that have access to business intelligence are able to make better-quality and timelier decisions in a way that impacts the business in a positive way," he says.

But you have to remember that making BI pervasive involves constant learning, says 1-800-Flowers.com's Bozzo.

"We're always learning and discovering new tricks," he says.

"That's not to say we're not already getting enormous benefit from our BI efforts, because we are — day in and day out. We're just greedy — we want even more." ◆

Schultz *is a longtime IT writer and editor in Chicago. You can reach her at bschultz5824@gmail.com.*

The Payoff

Here are three examples of the bottom-line impact of building an enterprisewide culture that embraces BI.

■ **1-800-Flowers.com:** Prior to Mother's Day, business users noticed in real time that a particular product was selling strongly. So they quickly created an express checkout process that shaved two to three minutes off the average call time, says CIO Steve Bozzo. "Every minute — or every second, for that matter — can mean tens of thousands of dollars in reduced costs," he says. "But more important than that, we surveyed callers and found an increase in customer satisfaction."

■ **Allianceone:** Since all employees were trained in BI and equipped with BI tools, sales for the first quarter of 2011 were up 26% over the same period in 2010, says Bobby Nix, director of business intelligence and analytics. "We believe that what we've been able to do from a BI perspective has changed the conversations for front-line sales, saving a ton of time and really helping to coach associates on the best sales opportunities," he says.

■ **Cincinnati Zoo & Botanical Garden:** After the zoo went live with BI, decisions that were made regarding its food and beverage services led to a 30.7% per-capita increase in sales from October 2010 through the first quarter of 2011 compared with the same period a year earlier, says John Lucas, director of park operations. "If I read this somewhere, I'd treat it with skepticism," he says. "But I assure you these are real, auditable, public numbers."

— BETH SCHULTZ

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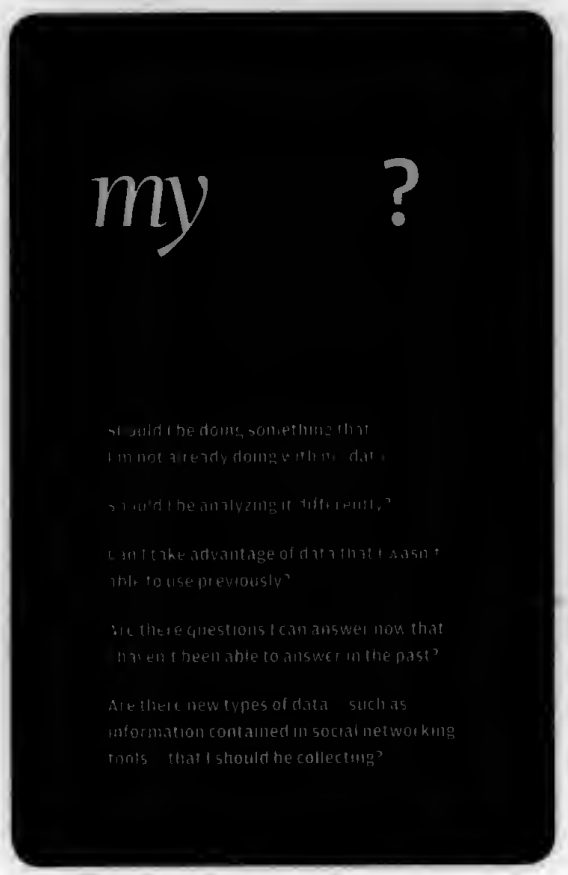

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The Payoff

TABLETS IN A WINDOWS WORLD:

ALIGNING THE NEEDS OF THE MOBILE WORKFORCE AND THE ENTERPRISE.

Seeking to meet user demands for increased flexibility and mobility, some IT departments are choosing to support Windows 7-based tablets such as the HP Slate 2 Tablet PC that map to their PC strategies and provide proven security and compatibility with existing applications

IT departments are under intense pressure to better equip mobile workers to stay highly productive no matter where they find themselves. Mobile internet devices from smartphones to tablets and netbooks have convinced workers that they can get work done from just about anywhere, using a bewildering variety of new and relatively inexpensive devices.

This trend—dubbed the consumerization of IT—is seeing users from top executives on down equipping themselves at consumer electronics outlets and demanding that IT figure out how to make their new devices work, regardless of how ill-suited they may be to the existing infrastructure.

For IT, the prospect of supporting more devices and the challenges of implementing the growing trend of allowing end users to bring their own technology to work presents a significant distraction as well as a potential disruption to their everyday support efforts.

IT is justifiably uncertain how these new non-standard devices will fit into their battle to insulate the organization from new security threats as well as their efforts over compliance with privacy and governance regulations. Meanwhile, many users acquire new devices only to be frustrated by inherent limitations in accessing or manipulating the productivity and legacy applications they rely on.

A Productive Road Warrior

Today's busy executives and sales people need anytime-anywhere notebook functionality—without having to carry around a cumbersome notebook. But rather than struggle to force-fit novel operating systems into an enterprise architecture, why not extend that infrastructure into a lightweight, truly portable package that runs Windows 7 and Windows applications so that road warriors can remain productive while traveling with carrying fewer devices?

With the HP Slate 2 Tablet PC, IT can now allow mobile workers to have instant information and access to their network environment just as if they were in the office. Mobile devices should extend an organization's computing strategy and provide security on the road.

HP on the Road

The HP Slate 2 Tablet PC delivers consistent Windows 7 experience with enterprise-ready features including an integrated TPM encryption module, USB 2.0 ports, battery life of up to 7.5 hours and WWAN option for ready access to information anytime and anywhere. At 1.5 pounds with an 8.9-inch diagonal display that accommodates touch and digital pen input, this new system supports full-function editing required for productivity applications such as Word and Excel. The Swype keyboard app enables users to input words faster and easier than other data input methods, using one continuous finger or stylus motion across the screen keyboard. For workers, there is virtually no transition needed to be productive on the HP Slate 2 Tablet PC.

To read more on the evolution of mobile computing technologies and how organizations are extending existing Windows infrastructure to portable, easy to use tablet devices, access www.[illegible]rworld.[illegible] whitepap[illegible]s/hp/tab[illegible]

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Security Manager's Journal

MATHIAS THURMAN

A Rush to Judgment on DLP

I GOT MOST of what I asked for, and I got it early. Sounds good, right? Not so much.

In my planning for 2012, I requested budget for data leak prevention (DLP). I had reason to believe I had a decent shot at getting the funding. I have a mandate to protect the company's intellectual property, and DLP has been a hot topic within the executive ranks.

I just learned that I'll be receiving a portion of my budget request, but not in 2012. It's been tacked onto the remaining 2011 budget. That means I have to buy a DLP tool before the end of the year. It appears that the executives have been persuaded that DLP will be a valuable piece in our security arsenal, and they've decided that the sooner we implement it, the better. The good news is that executives in this company take information security seriously. The bad news is that they don't understand that there is great value in taking time to study a technology before making a decision. If you rush, you can end up with something that doesn't really address the issues you want to tackle.

My original plan was to hire two DLP analysts and to work with them on a proof of concept. The reduced budget means I can hire only one analyst, but the time crunch makes matters even worse. We only have two months to conduct a formal proof of concept — two months that are packed with holidays. What's more, I don't have the budget or head count to support a comprehensive DLP deployment.

Such a deployment would combine network DLP with discovery and endpoint technology. With network DLP, you identify data for monitoring, and you are then alerted when any of it leaves the company, be it through Microsoft Exchange email, webmail, file uploads, social media, FTP or any other method. As the name implies, though, network DLP only monitors traffic on the network. If identified data is on a laptop and that laptop goes off the network, you're blind. Endpoint DLP extends the DLP policy to devices that can work off the network. Discovery DLP lets you determine where all sensitive information resides, and it alerts you when any of that information is moved or is someplace it shouldn't be.

More suggestions about security, computerworld.com/blogs/security

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Trouble Ticket

With the budget and time frame I've been given, our initial deployment will be restricted to network DLP at our three largest sites. That's not 100% coverage, but it's pretty close. I'll also be able to make use of my own experience, since I've deployed DLP in the past with success.

In the next few weeks, we will conduct limited proofs of concept, asking vendors to set up environments for testing our use cases. That won't leave much time for us to make our choice, negotiate the price and get the contract reviewed by legal.

Making Do

But if all of that happens in time, we can start the new year setting up our new tool. I expect to create some initial structured data rules that look for things like credit card numbers, Social Security numbers and some source code. I'll also include keywords such as code names for mergers or acquisitions we might be involved in, so the DLP system will look for those code names in all communications. For the unstructured data, I will create protected directories for each major business unit. The units will then identify all of their sensitive data and place a copy of it in their respective directories.

Once documents have been identified, we will monitor the networks for data leaving the network. Events will trigger a notification that will be sent to the person responsible for reviewing alerts and determining whether they warrant further action.

In other words, we will make the most of what we have been given. ◆

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Security Manager's Journal

MATHIAS THURMAN

Trouble Ticket

A Rush to Judgment on DLP

Our manager gets funding for DLP deployment added to his current budget. But that budget expires in a few weeks.

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OPINION

PRESTON GRALLA

Look Who's Discovered the Virtues of Openness

Microsoft's embrace of openness does not mean that it's forgoing profits.

YOU KNOW THE STEREOTYPE: Microsoft is the sworn enemy of openness, unwilling to open its code or hardware to others. It's a monopolist bent on world domination, willing to use its lawyers and market strength to ensure that Windows and Office don't face any serious competition.

In years past, that stereotype had some truth to it. Microsoft certainly used its monopoly power to quash competition. (And that's making news again. Bill Gates will be testifying in a lawsuit in which Novell charges that Microsoft used monopolistic practices to try to kill the once-popular WordPerfect word processing software.)

And even when Microsoft made overtures to open source, its proponents called those gestures halfhearted. When Microsoft signed a cross-licensing deal involving Novell's SUSE Linux software in November 2006, the open-source community eyed the pact with suspicion. Then, in May 2007, Microsoft claimed that open-source software violated 235 Microsoft patents.

In recent months, Microsoft has launched a raft of lawsuits against Android hardware companies, charging that Android violates a variety of Microsoft patents. Many Android device manufacturers have settled, to the tune of $444 million.

All of that certainly sounds like the practices of a company that is not friendly to openness and eager to use lawsuits to achieve what its engineers can't.

Despite this impression, over the past few years, Microsoft has quietly discovered the virtues of openness. A recent example concerns a "jailbreaking" app for Windows Phone 7 devices. Normally, Windows Phone 7 devices can run only apps available through Microsoft's official app store, the Windows Phone Marketplace. Microsoft, though, recently allowed the developer ChevronWP7 Labs to sell a jailbreaking app through the Windows Phone Marketplace, after initially banning it a year ago.

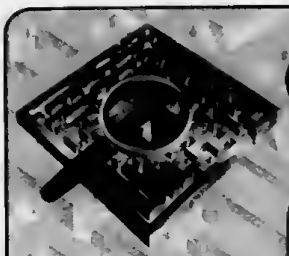
That's not the first time Microsoft has done such a thing — and not even the most dramatic instance of it. In November 2010, Microsoft aligned itself with the do-it-yourself movement when it decided to let anyone hack into the guts of its Kinect controller-free gaming system for any purpose. At first, when hackers began doing this to the Kinect, Microsoft issued a veiled threat against them. But not long after that, the company saw the benefits of such hacking and welcomed anyone to get involved; it even announced plans to work with universities to promote such activity. Alex Kipman, director of incubation for Xbox Live, told National Public Radio's "Talk of the Nation" that Microsoft designed the Kinect with an open USB port so that PCs would be able to access the device's sensors. And he said that Microsoft would also increase its partnerships with universities for research using the Kinect.

Why has Microsoft now become a friend of openness? Because, like other companies, it has found that it's good for business. For example, when iRobot saw that its Roomba robotic vacuum was proving popular with hackers, the company started selling the iRobot Create, a programmable robot with the guts of a Roomba but no ability to vacuum.

By opening up the Kinect, Microsoft helps fuel a new market for the device, as well as plenty of marketing buzz. As for Windows Phone 7, it's struggling to gain market share, so allowing jailbreaking can only help with sales.

By slowly embracing openness, Microsoft isn't forgoing the idea of profits. Rather, it recognizes that being open is a way to *increase* profits. ◆

Preston Gralla is a *Computerworld.com* contributing editor and the author of more than 35 books, including *How the Internet Works* (Que, 2006).



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Career Watch

ASK A PREMIER 100 IT LEADER

David Steinour

The CIO at George Washington University

Answers questions about the traits he seeks in new hires, the value of mentors and more

What qualities have you sought in recent hires? Recently, we have been hiring motivated, self-aware individuals who are dedicated to the mission and goals of the organization. Our recent hires are motivated by what is best for their teams, the division of IT and the university as a whole, rather than making decisions solely based on their personal interests. Finally, we have been focusing on hiring individuals who are willing to pay their dues in the organization, rather than expecting to immediately rise to the top.

If you have a question for one of our Premier 100 IT Leaders, send it to **askaleader a computerworld.com**, and watch for this column each month.

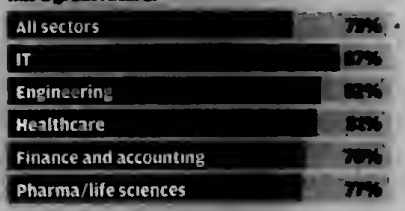
Is there real value in having a mentor? How do you go about finding one? There is real value in having mentors. They inspire us, discuss career paths and help us find ways to take our careers in the direction we choose. A goal-oriented person always has a mentor in some form or another. Several mentors have helped me get to where I am today, and the key was choosing trustworthy individuals with whom I could have open, real conversations. The most important message a mentor taught me was that one day I would need to choose between management and technology and eventually sacrifice one or the other, because one cannot succeed in both simultaneously.

How can a lowly sysadmin get his ideas heard? I'm not looking for praise, and I don't want to navigate the politics of the organization. I just think there are things we could be doing better. This is a problem felt by organizations everywhere, regardless of industry. At GWU, the division of IT works to confront it head-on by cultivating a culture of open communication. I have an open-door policy and actively invite feedback for every initiative. Additionally, we hold quarterly "Coffee and Conversation" gatherings with the CIO and deputy CIO, where employees can ask unedited questions and drive the agenda of the meeting. Managers are not present, giving staff members opportunities to freely articulate their ideas and engage in dialogue with higher levels of the organization. A real team effort is required to tap into all of an organization's skills, and these conversations have proved beneficial to everyone in the division of IT.

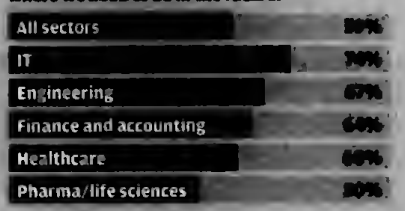
You Can't Spell 'Positive' Without 'IT'

IT employees are more upbeat about the future than those in many other sectors of the economy, according to a survey by staffing firm Randstad. Responding to questions about the future, IT professionals tended to be positive about things like job security (82% said they feel secure) and their level of loyalty and commitment to their employers (66% of IT professionals said they feel more loyal and committed now than they did when they started — that's a higher percentage than any of the other four sectors highlighted in the survey). IT's optimism stands out in these sets of responses:

"Our company/organization has a great future."



"Our senior management is making the right staffing decisions today to get us where we need to be in the future."



SOURCE: JUNE 2011 SURVEY OF 3,436 ADULTS IN THE U.S., INCLUDING 152 IT PROFESSIONALS

FOTOLIA / IDONCEPT

Startup Freedom vs. Corporate Stability

What attracts IT workers to startups? Gourmet lunches? Free massages? All the Red Bull you can drink? In a Dice.com survey of more than 750 tech professionals this summer, 42% of those who said they'd like to work at a startup cited the entrepreneurship of such an operation as the big draw. Meanwhile, 22% cited speed and 19% mentioned freedom. But startups were the employer of choice for less than one-third of those polled. Many more were interested in jobs at stodgy corporations. Of that cohort, 74% said corporate IT would be more stable, 18% said it would be more structured and 8% said it would be less risky.

Career Watch

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SHARKTANK

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

HAL MAYFORTH

No, That's Not Faster

User calls the help desk after 5 p.m. with an urgent message – "Printing is down for all of the Southeast!" – and this pilot fish gets the trouble ticket. "I called the user, but he wasn't answering his phone, and neither was his assistant," fish says. "I reviewed the system activity and saw that the print subsystem was up. I tried printing a report, and it printed. I called the help desk and asked if anyone else had complained about printing, and they had no other complaints on file. Of course, it was after 5 p.m., so it was possible that no one else was trying to print. At that point, I decided to go to the user's office. I found him there complaining loudly about how his report wouldn't print. I looked at his printer and powered it off and back on, and then it started printing. Turned out that he thought he'd get a faster response if he said the whole region was down than if just his printer wasn't working."

Some Assembly *Will* Be Required

Help desk at this mortgage service company gets a call from a user who says he's tried printing a month-end report repeatedly, but it's not coming out of the printer. "The user said he needed the report to present to management in a meeting that was now only minutes away," says an IT pilot fish on the scene. Help desk tech asks the usual printer troubleshooting questions, but the tech-savvy user has already confirmed that the printer has paper, and other users are getting their printouts. While that call is still going on, a second call comes in to the help desk about another problem in the same workgroup print area. "A user got an error while printing an address label," fish says. "Going to the print area to load a new roll of labels, the user found an entire roll printed and lying on the floor, but the information on the labels was not customer addresses. The second help desk tech turned to the first one and said, 'Hey, I think found the missing report.' "

Glad to Help

Programmer pilot fish at this smallish company has to create specialized applications for some individual users – and that requires a lot of individual attention. I wrote this fairly complex piece of software for one user, with lots of calculations," fish says. "He is regularly in my office with tweaks and changes, so I was not surprised one day when he showed up complaining that something was wrong. I tore my attention away from my current project and asked what the problem was. He said, 'This number should be the same as that number.' Then he paused, looked at his paperwork and said, 'They are. OK, thanks, bye,' and walked out."

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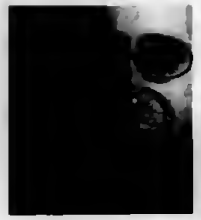

PAUL GLEN

Don't Give Business People 'Nothing but the Facts'

We often make the mistake of believing that business people think like we do. They don't.

I'VE BEEN TALKING LATELY about how IT and business people have trouble communicating. It goes beyond speaking different languages. The two groups really think differently.

If you believe I'm overstating my case, then try this experiment.

The next time you give a presentation to business people, do a follow-up a day or two later. You will likely find that nearly everyone in your audience completely missed your point.

The reason we often bomb when it comes to presenting to business people is that we misunderstand how they tend to process presentations and information. We make the mistake of believing that they think like we do. They don't.

Anytime you give a presentation, you need to share four things with your audience. And you have to think about what each of those four things means to nontechnical people.

Facts. Most presentations by technical people are built around facts. We believe that our obligation to our organizations — and to the concept of truth itself — is to present the cold, hard facts as best we know them.

Unfortunately, facts don't penetrate most people in the same way that they do techies. Because facts are objective and verifiable, we find them compelling, even exciting. They stand on their own and provide a sense of order and structure that we like.

In our minds, if you have the facts, you have all you need to make a decision. But for business people, facts are neutral at best, and not motivating in many cases. They need more than facts if they are going to arrive at your meaning.

Insights. Insights depend on facts, but they only come when you have illuminated the implications of the facts. An audience of business types won't arrive at these "aha!" moments if you don't point the way to the larger meaning to which the facts give rise.

And if you don't do that, you won't get through to them, because, for business people, insights are more influential than facts. You might feel uncomfortable telling your audience what they should conclude from your facts, but if you don't guide them to the insight, they may not understand what you're trying to tell them, or they may at least miss its significance.

Stories. As essential as insights are, they can be impotent without a story to illustrate them. Humans seem to be wired to think in narrative terms, and for nongeeks, stories are the dominant structure for understanding facts and insights, making them viscerally accessible.

Techies often complain that anecdotes don't prove anything. That's true, but this *fact* doesn't change the reality that stories are compelling to most people. Don't think of narrative as a means of providing proof; think of it as a device to help people remember your important points.

Emotions. Most importantly, people remember what they felt during your presentation. Maya Angelou wrote, "People will forget what you said. People will forget what you did. But people will never forget how you made them feel."

Your challenge is to have an impact on your audience. To do that, you need to plan out not just what you want them to think, but also what you want them to feel — especially in cases where you'd like them to make a decision, change course or up your funding. It's the emotional impact (which includes facts, insights and stories) that persuades business people to take action. ◆

Paul Glen is the CEO of Leading Geeks, an education and consulting firm devoted to improving collaboration between technical and nontechnical groups and people. You can contact him at info@leadinggeeks.com.

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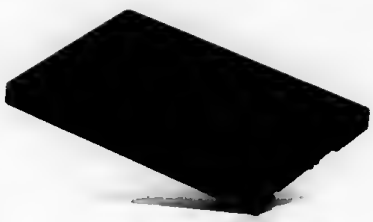

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- Memory: 4GB std., 384GB max.
- Hard drive: none ship std.; 7.2TB max
- Two NC382i dual-port multifunction gigabit server adapters

HP StorageWorks® P4300 G2 SAS Starter SAN Solution
CDW 2002993

- Easy to deploy, scale and maintain
- Delivers enterprise functionality to enhance virtual environments, simplify management and reduce costs
- Ensures that crucial data remains available

Red Hat® Enterprise Virtualization for Servers
CDW 2003540

- An end-to-end virtualization solution on an open source application platform
- Enables pervasive datacenter virtualization
- Enhances capital and operational efficiency
- Trusted on mission-critical workloads

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